

Appl. No. 09/896,646
Amdt. Dated: July 25th, 2005
Reply to Office Action of January 26th, 2005

Remarks/Arguments:

Claims 5-28 are currently pending in the present application, in which claims 1, 3, and 4 are canceled without prejudice or disclaimer, claim 5 is currently amended, and claims 7-28 are newly presented. No new matter is introduced.

The Office Action dated January 26, 2005 rejected claims 1, 3 and 4 under 35 U.S.C. 103(a) as being unpatentable over Furukawa (U.S. Patent No. 6,115,614) in view of Sourour (U.S. Patent No. 6,157,820) further in view of Whinnett (U.S. Patent No. 6,192,256). Claims 5 and 6 were rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa in view of Tanay *et al.* (U.S. Pub. No. 20030129987) further in view of Desantis (U.S. Patent No. 5,628,052).

In view of the amendment, the rejection of claims 1, 3 and 4 is rendered moot.

As for the obviousness rejection of claims 5 and 6, Applicant respectively traverses the rejection on the merits, because in Applicant's view the claimed invention patentably defines over the applied prior art, as next discussed.

The Office Action, on page 5, acknowledges that "Furukawa fails to teach the feedback information based on prediction of future propagation measurements, and from at least two antennas." Accordingly, the Office Action is forced to rely on Tanay *et al.* for a supposed disclosure of the claimed "feedback information," citing paragraphs [0052] and [0055]. Applicant respectively submits that Tanay *et al.* provides no such disclosure, as the cited paragraphs state the following (Emphasis Added):

[0052] In one preferred embodiment, the system uses weighting factors which are specified by the user. In particular, the system allows identification of areas within the network service area in which sensitivity to call quality is particularly high and other areas where such sensitivity is relatively low. For example, areas frequented by top government officials may be designated as "high" sensitivity and low traffic pedestrian areas may be designated as "low" sensitivity. In this embodiment, the system also allows identification of specific areas within the network service area in which peak time call volume, preferably on a per-pixel basis, is anticipated to be significantly higher than average, and other specific areas where such anticipated call volume is relatively low. For example, sections of major highways where vehicular traffic routinely backs up during "rush hour" might generate much higher than average peak time call volumes, so the user might designate such areas as "high" call volume per pixel. "Low" call volume per pixel designated areas may be locations such as side roads located in rural townships where activity is minimal. The user may use a number of different sources of information to

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provide such weighting factors, such as traffic reports, call logs from past activities in certain areas, and consumer feedback reports which may indicate areas where communication services may be currently deficient. Once these weighting factors are provided by the user, the system adjusts the interference impact scores accordingly, in line with the weighting factors.

[0055] In the above pseudo-code, a pixel by pixel analysis is undertaken for each serving sector (current_server) and each interfering sector (current_interferer) in the current pixel being examined. For each pixel (current_point), the C/I is computed for that specific pixel's serving sector and each of the other interfering sectors in the network service area (sectors in the network !=current_server). In one embodiment, the C/I will be computed using the RF propagation information which may be simple predicted RF propagation information or alternatively, sampled RF information and/or the RF information merged with empirical data. Once the C/I of the current_server and current_interferer is computed, the co-channel and adjacent channel local interference indices are computed from the computed C/I at the current_point. In the present embodiment, the local interference index is a measure of the user dissatisfaction from experiencing a given C/I in a given technology. Once the local interference indices are calculated, the system uses an integration policy to collect or combine all the local interference indices to generate an impact score between the current_server and current_interferer for that given pixel. This combination of local interference indices can be done using traffic normalized summation, maximization, prioritized weighted summation, or other variants.

Given the above passages, Applicant fails to understand the relevance such disclosure has to the claimed features of "generating the feedback information based on prediction of future propagation measurements..." as positively recited by independent claim 5. The cited passages merely disclose use of "weighting factors" specified by users; at best, the only use of the word "feedback" is in the context of "consumer feedback reports." Therefore, Tanay *et al.* cannot disclose use of "feedback information" in the context of the claims.

Furthermore, 35 U.S.C. § 132 requires the Director to "notify the applicant thereof, stating the reasons for such rejection." This policy is captured in the Manual of Patent Examining Procedure. For example, MPEP § 706 states that "[t]he goal of examination is to clearly articulate any rejection early in the prosecution process so that applicant has the opportunity to provide evidence of patentability and otherwise respond completely at the earliest opportunity." Furthermore, MPEP § 706.02(j) indicates that: "[i]t is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to respond." Unfortunately, the Examiner's only discussion of this limitation is unclear with reference to unrelated passages (paragraphs [0052] and [0055]).

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The further addition of Desantis does not fill in the gaps of Furukawa and Tanay *et al.*, as Desantis is applied merely for a supposed teaching of "at least two antennas."

Accordingly, a *prima facie* case of obviousness thus has not been established. To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Hence, Applicant urges the withdrawal of the rejection and requests the indication that independent claim 5, and claim 6 depending therefrom, are allowed.

Turning to newly added claims 7-28, independent claims 7 is drawn to a method for supporting signal transmission, and recites "receiving a first pilot signal transmitted over one of a plurality of distinct channels; receiving a second pilot signal transmitted over another one of the distinct channel, wherein the first pilot signal and the second pilot signal are identical; determining weights, corresponding to the channels transporting the pilot signals, based on the received first pilot signal and the received second pilot signal; and sending feedback information based on the determined weights to the base station." New independent claim 14 recites "an antenna configured to receive a first pilot signal transmitted over one of a plurality of distinct channels, and a second pilot signal transmitted over another one of the distinct channel, wherein the first pilot signal and the second pilot signal are identical; and a feedback unit configured to determine weights, corresponding to the channels transporting the pilot signals, based on the received first pilot signal and the received second pilot signal, wherein the feedback unit generates feedback information based on the determined weights for transmission to the base station." Independent claim 21 recites "transmitting a first pilot signal over one of a plurality of distinct channels to a mobile station; transmitting a second pilot signal over another one of the distinct channels, wherein the first pilot signal and the second pilot signal are identical prior to transmission; and receiving feedback information, in response to the transmitted pilot signals, from the mobile station, wherein the mobile station determines weights corresponding to the channels transporting the pilot signals based on the transmitted first pilot signal and the transmitted second pilot signal." New independent claim 24 recites "a first antenna configured to transmit a first pilot signal over one of a plurality of distinct channels to a mobile station; a second antenna configured to transmit a second pilot signal over another one of the distinct channels, wherein the first pilot signal and the second pilot signal are identical prior to transmission; and a processor unit configured to receive feedback information, in response to the transmitted pilot signals, from the mobile station, wherein the mobile station determines weights corresponding to the channels transporting the pilot signals based on the transmitted

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first pilot signal and the transmitted second pilot signal." The art of record are devoid of these features, and thus, these independent claims 7, 14, 21 and 24 should be indicated as allowable. Additionally, new claims 8-13, 15-20, 22, 23 and 25-28, depending correspondingly from claims 7, 14, 21 and 24, are allowable at least for the reasons for the allowability of these independent claims. Further, these dependent claims are allowable on their own merits.

Applicant submits that all pending claims are now in condition for allowance. A Notice of Allowance is respectfully requested.

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Respectfully submitted,

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